

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): Process for preparing 1-octene by comprising:

- a) ~~catalytic reaction of~~ reacting catalytically a butadiene-containing stream with methanol to give a stream comprising at least 1-methoxy-2,7-octadiene,
- b) ~~catalytic hydrogenation of~~ hydrogenating catalytically the 1-methoxy-2,7-octadiene-containing stream to give a stream comprising at least 1-methoxyoctane, and
- c) ~~catalytic dissociation of~~ dissociating catalytically at least part of the 1-methoxyoctane to give a dissociation product comprising at least water and 1-octene, wherein
- d) the dissociation product from c) is separated by distillation into a gaseous low-boiling fraction comprising at least 1-octene and water and a liquid high-boiling fraction comprising at least 1-octene and 1-methoxyoctane,
- e) the low-boiling fraction is completely or partially condensed and separated into an aqueous phase and a 1-octene-containing, nonpolar phase,
- f) the nonpolar phase from e) is recirculated to step d) and
- g) the high-boiling fraction from d) is separated into a 1-octene-containing fraction and a 1-methoxyoctane-containing fraction.

Claim 2 (Original): The process as claimed in claim 1, wherein d1) the dissociation product from c) comprises dimethyl ether (DME) and is separated by distillation into a low-boiling fraction comprising at least DME and a high-boiling fraction which is at least partly passed to step d).

Claim 3 (Original): The process as claimed in claim 2, wherein the high-boiling fraction from d1) comprises methanol and is washed with water to give a methanol-containing aqueous stream and a nonpolar stream which is passed to step d).

Claim 4 (Original): The process as claimed in claim 1, wherein d2) comprises methanol as dissociation product from c) and is washed with water to give a methanol-containing, aqueous stream and a nonpolar stream which is passed at least partly to step d).

Claim 5 (Original): The process as claimed in claim 4, wherein the nonpolar stream comprises at least DME and is separated by distillation into a low-boiling fraction comprising at least DME and a high-boiling fraction which is passed to step d).

Claim 6 (Currently Amended): The process as claimed in ~~any of claims 1 to 5~~ claim 1, wherein the 1-octene-containing fraction from g) is separated in a step h) into a fraction comprising at least 1-octene and a fraction comprising at least C₈- and C₉-olefins.

Claim 7 (Currently Amended): The process as claimed in ~~any of claims 1 to 6~~ claim 1, wherein the 1-methoxyoctane-containing fraction from g) is separated in a step i) into a low-boiling fraction comprising 1-methoxyoctane and a high-boiling fraction comprising at least dioctyl ether.

Claim 8 (Original): The process as claimed in claim 7, wherein the low-boiling fraction is recirculated to step c).

Claim 9 (Currently Amended): The process as claimed in ~~any of claims 1 to 8~~ claim 1, wherein k) the step a) comprises, after the catalytic reaction, a distillation step in which the C₄-hydrocarbons are separated off by distillation and the remaining stream which has a C₄-hydrocarbon content of less than 5% by weight is passed to step b).

Claim 10 (Currently Amended): The process as claimed in ~~any of claims 1 to 9~~ claim 1, wherein l) the stream from step b) is separated by distillation into a low-boiling fraction comprising at least methanol, 3-methoxyoctane and C₈-hydrocarbons and a low-boiling fraction comprising at least 1-methoxyoctane and the high-boiling fraction is passed to step c).

Claim 11 (Currently Amended): The process as claimed in claim 3 ~~or 4~~, wherein the methanol and/or the water is/are separated off from the aqueous, methanol-containing stream in a step o).

Claim 12 (Original): The process as claimed in claim 11, wherein the aqueous phase from e) is likewise fed to step o).

Claim 13 (Currently Amended): The process as claimed in claim 11 ~~or 12~~, wherein the low-boiling fraction from l) is likewise fed to step o).

Claim 14 (Currently Amended): The process as claimed in ~~any of claims 11 to 13~~ claim 11, wherein an organic phase is separated off from the stream in step o) and the aqueous phase is separated by distillation into a low-boiling fraction comprising methanol and a high-boiling fraction comprising water.

Claim 15 (Original): The process as claimed in claim 14, wherein the organic phase is separated off by extraction.

Claim 16 (Currently Amended): The process as claimed in ~~any of claims 11 to 15~~ claim 11, wherein all or part of the methanol is recirculated to step a) (telomerization).